



# The Flood Protection Authority-East

News of Your Flood Defense System

January 1, 2020



**Bayou Bienvenue Vertical Lift Gate (IHNC Surge Barrier)**

## *Message from the FPA-E President*

It is a privilege to share with you our first quarterly newsletter of 2020. We had a very busy 2019 as evidenced by the stories contained herein and the many other activities undertaken in the past year.

Our successes result from the hard work by our staff coupled with our federal, state and local partners. Our progress is rooted in the efforts of my predecessors on the Flood Protection Authority Board of Commissioners. Their efforts resulted in the reorganization of three diverse levee districts – the Orleans Levee District, East Jefferson Levee District and the Lake Borne Basin Levee District. Starting with the first president, Tom Jackson, and continuing through my predecessor, Joe Hassinger, the FPA-East Board of Commissioners and employees worked together to build a cohesive organization with uniform employment policies and pay scales. In the last few years under the guidance of Mr. Hassinger we have developed an outstanding leadership team.

The FPA-East works closely with federal, state and local government agencies. This year we welcomed Colonel Stephen Murphy as the Commander of the New Orleans District Corps of Engineers and Rear Admiral John Nadeau as Commander of the Eighth Coast Guard District in New Orleans. We receive significant assistance on numerous issues from “Chip” Kline, Jr., Executive Assistant to the Governor for Coastal Activities and Chairman of the Louisiana Coastal Protection and Restoration Authority Board, and his staff. Whenever a major storm threatens, we are in regular contact with the Emergency Operations Centers in Jefferson, Orleans and St. Bernard Parishes. Together with these government agencies, the FPA-East provides flood protection services to our customers – the citizens of Jefferson, Orleans and St. Bernard Parishes.

I hope you enjoy our newsletter. Happy New Year.

Herb Miller

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**Flood Protection Authority**

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### **IN THIS ISSUE PAGE**

**Celebration of Restored  
Xavier Gonzales Murals 2**

**Transformation of the New  
Orleans Lakefront Airport  
Terminal 3**

**FPA's K-12 School  
Program 4 - 5**

**EJLD Police Outreach to  
Lion Scout Troop 261 5**

**FPA Drone Program 6**

**Seawall Stabilization and  
Erosion Control Project  
Phase 4 7**

**Lake Pontchartrain &  
Vicinity General  
Re-Evaluation Report 8**

## *Celebration of the Restored Xavier Gonzales Murals*



On November 21st New Orleans Lakefront Airport (NOLA) Friends, Inc., and the Lakefront Management Authority (LMA) hosted the Celebration of the Restored Xavier Gonzales Murals in the Atrium of the historic New Orleans Lakefront Airport Terminal. This remarkable series of eight murals created by world-renowned artist Xavier Gonzales circa 1934 depicting the Golden Age of Aviation has been professionally restored by esteemed conservator Elise Grenier of Grenier Conservation, LLC. The restoration of this magnificent artwork was paid for by FEMA and private donations.

Wilma Heaton, LMA Chair and a Director of NOLA Friends, Inc., hosted the event, which featured presentations on the post-Katrina restoration of the Terminal by Paul Dimitrios, AIA (RCL Architecture, LLC), the historic murals by Elise Grenier, and the Fountain of the Four Winds by Dr. Tlaloc Alferez, daughter of the fountain's sculptor Enrique Alferez.



**Restored Mural "Flight Over Paris"**

A highlight of the event was the announcement of the final phase of the restoration of the Fountain of the Four Winds, which will bring this famous artistic landmark back to its original functionality and showcase with water and lights the extraordinary sculpture and friezes created by celebrated artist and sculptor Enrique Alferez in 1935-36.



**Wilma Heaton hosts event.**

United Restoration and Preservation, Inc. is leading the project to restore the fountain under the supervision of Conservator Elise Grenier. The fully restored fountain will continue its role as a unique and treasured part of the history of the New Orleans Lakefront Airport and the City of New Orleans, and a destination for art lovers, tourists and the public for many years to come.

NOLA Friends presented its James D. Robinson, Jr. Award to T. Sellers Meric in honor of his painstaking efforts to preserve the original Art Deco architectural elements and artwork during the 1964 renovation of the Terminal, which allowed its restoration after Hurricane Katrina. The award was accepted by Thomas S. Meric, Jr. (bottom left of page) on his behalf of his father who was unable to attend the event.



NOLA Friends, Inc. is a non-profit corporation whose purpose is to restore and beautify the public areas of the New Orleans Lakefront Airport and perpetuate its historic significance. All proceeds from the event are dedicated to the restoration of the Fountain of the Four Winds. Information at [NOLAMurals.com](http://NOLAMurals.com)

**Presenters Paul Dimitrios, Elise Grenier and Dr. Tlaloc Alferez.**



**The Fountain of the Four Winds**



## *Transformation of the New Orleans Lakefront Airport Terminal*



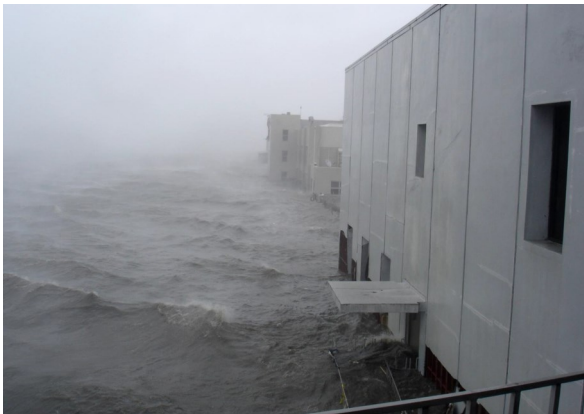
**New Orleans Lakefront Airport (formerly Shushan Airport) 1934**

The Terminal Building was constructed during the governorship of Huey P. Long and overseen by his trusted confidant and political appointee, Colonel Abe L. Shushan, the President of the former Orleans Levee Board. In the 1930's when the seawall was being constructed on Lake Pontchartrain, it was decided that by building a landfill on the lake on which to place the airport, the facility would be built on reclaimed land and therefore out of the control of the City of New Orleans, the home of many of Governor Long's enemies.

The New Orleans Lakefront Airport Terminal Building has undergone transformation from a magnificent Art Deco structure in 1934, to a renovated cold war era nuclear fallout shelter in 1964, suffered catastrophic damage by Hurricane Katrina in 2005, and now full transformation to its former Art Deco glory.



**Airport Terminal after its 1964 Renovation**



**2005 Hurricane Katrina**

In 1964, in the wake of the Cuban missile crisis, Cimini and Meric and Associates, Architects, was commissioned to design the renovations that converted the structure to a nuclear fallout shelter. A false floor was constructed enclosing the balcony over the lobby and a second floor office suite replaced the former atrium on the second floor. Fortunately, T. Sellers Meric took great pains to preserve as much as possible of the original architecture and artwork. Mr. Meric carefully covered the murals with rice paper and encased the building in metal studs and stucco panels.

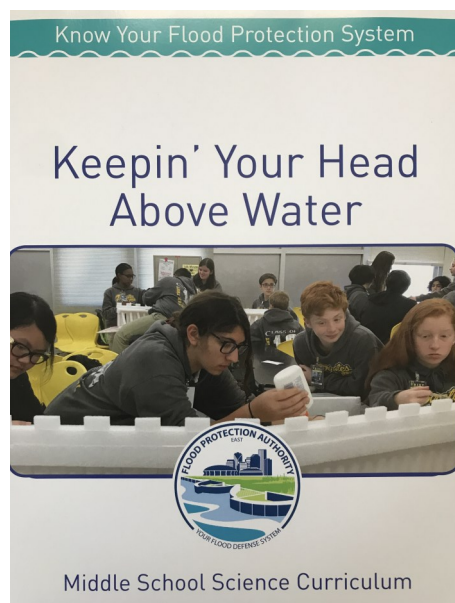
On August 25, 2005, Hurricane Katrina ravaged the New Orleans Lakefront Airport. Surge from Lake Pontchartrain left eight feet of water on the airfield and four feet of water inundated the interior of the Terminal Building.

The extensive post-Katrina repair project brought with it the opportunity to restore this former Art Deco jewel. RCL Architecture started working on the restoration project in 2006 and completed the construction in 2013. A total of \$19 million in restoration costs for the Terminal was paid in large part by FEMA. The renovation of the building has taken countless hours of research and drawing along with years of work by skilled laborers and artisans. Under the vigilant supervision of RCL Consultants, LLC, the "Art Deco Wonderland" has been restored to its original glory bringing visitors back to the Golden Age of Aviation.



**The Fully Restored Terminal Building**

## FPA's K-12 School Program



The Flood Protection Authority's (FPA) K-12 School Program was developed by Anne Rheams, the FPA's Education Consultant, and is supported by Antwan Harris, FPA Public Information Director. The major feature of the School Program is the curriculum guide entitled, ***“Keepin’ Your Head Above Water: Know Your Flood Protection System.”*** Anne co-wrote the 1<sup>st</sup> Edition with Gena Asevado, St. Bernard Parish Public Schools Science Curriculum Director. Anne is currently revising and adding new lessons and activities for the 2<sup>nd</sup> Edition of the curriculum with Dinah Maygarden, Director of the University of New Orleans' Coastal Education Program.

The curriculum meets the National and State Science Standards and is based on contemporary educational models. Major topics covered in the curriculum include: Geography of Water (where do students live in relation to the surrounding waterbodies); Storm Surge (what is it and what protects them - HSDRRS); and Risk associated with tropical cyclone systems (what they can do to protect themselves and their families). The activities of each of these lessons are hands-on and interactive, and fit into the framework of STEM Programs (Science, Technology, Engineering and Math).

The K-12 School Program is part of the Flood Protection Authority's public outreach to enhance understanding of its mission. The program not only ensures that future generations understand the risks and challenges associated with living with water, but that students will share the information and their learning experiences with families and friends.

### Student and Teacher Programs in October 2019

#### 8<sup>th</sup> Grade Science Classes All-day Workshops

Students learned about the following topics included in the curriculum guide:

- Viewing Flood Protection Authority videos of the Lake Borgne Storm Surge Barrier and the Permanent Canal Closures and Pumps;
- Using interactive mapping activities that orient students with the waterbodies that surround their homes and schools;
- Using a group discussion format about storm surge associated with tropical cyclone systems;
- Using the Flood Protection Authority's website to identify types of flood protection structures that are operated and maintained by the FPA;
- Brainstorming about how students will convey information that they've learned related to hurricane risk and preparedness to their families, friends and neighbors;
- Providing FPA Fact Sheets to help students develop educational materials to share with family, friends and neighbors.



**De La Salle 8<sup>th</sup> Grade Science Class All-day Workshop  
(50 students, 2 teachers)**



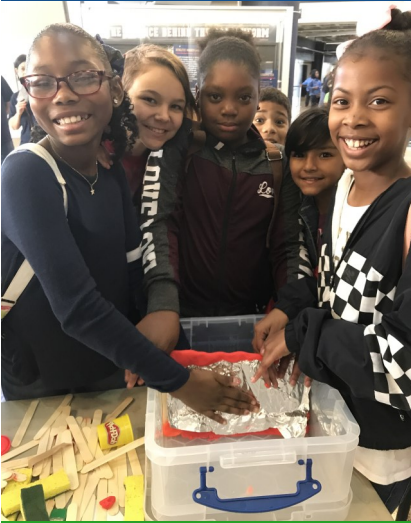
## *FPA's K-12 School Program*

### **Education Events**

#### ***STEM Fest at the Super Dome***

Nearly 100 students (in groups of 5 to 7) participated in a hands-on activity to build models of a floodwall and/or surge barrier. Their models were tested by simulating storm surge and determining faults in the system and corrections to be made.

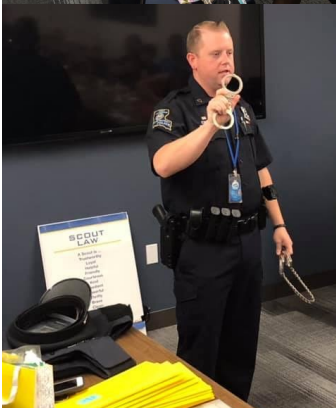
It got a bit messy but fun and learning was had by all!



### ***EJLD Police Outreach to Lion Scout Troop 261***

East Jefferson Levee District Police Officers Scott Meunier and Myles Ledet spoke to Lion Scout Troop 261 from St. Ann School. The event was held in the EJLD Police Department's new training room. The Officers covered topics such as how to properly use the 911 system, what it means to be a Police Officer and ways to safeguard their homes. Goodie bags filled with coloring books, candy, and trinkets were given to each child.

The event was a great success due to the efforts of Officers Meunier and Ledet.





## FPA Drone Program

The Flood Protection Authority (FPA) is taking advantage of newly developed technologies in order to effectively and efficiently operate and maintain the Hurricane and Storm Damage Risk Reduction System and Mississippi River Levee System, which protects Jefferson (east bank), Orleans (east bank) and St. Bernard Parishes. A component in this technical arsenal is the use of drones.



**The FPA Governs and Operates the East Jefferson, Orleans and Lake Borgne Basin Levee Districts**

The FPA's immense flood defense system includes 192 miles of federal and non-federal riverine and hurricane flood protection levees and floodwalls, 244 land based floodgates, 103 valves for gravity drainage structures, 5.4 miles of seawall, the Permanent Canal Closures and Pumps (3 pump station facilities), eight navigable structure gates (IHNC Barge Gate and Sector Gate, Bayou Bienvenue Vertical Lift Gate, Seabrook Complex, and the Bayou St. John, Bayou Bienvenue, Bayou Dupre and Caernarvon Sector Gates), and the IHNC Surge Barrier—the largest continuous storm surge barrier in the world stretching 1.8 miles across the Golden Triangle Marsh. The use of technologies to help operate, maintain and monitor this immense, complex system is becoming increasingly important as climate change, sea level rise, subsidence and geological changes take effect.

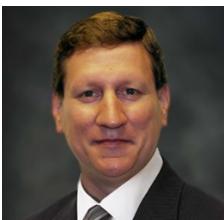
The FPA already utilizes drone technology to collect aerial photographs of various components of the extensive system and to obtain site information for Levee Safety Permit applications. The FPA is exploring the use of drones for levee inspection purposes and, as a pilot project, will re-inspect the 40 Arpent / Florida Avenue Levee System for levee accreditation by FEMA using drone technology.

The use of drones will be of tremendous value after tropical storms/hurricanes, as the FPA can use drones as a means to quickly survey and examine the flood defense system for damage or other issues.

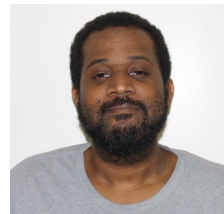
In 2020 the FPA has plans to expand its current number of drones and find new uses for the technology. FPA staff is working with a UNO student whose Master Thesis project is to test a theory on locating seepage along the Mississippi River Levee and the IHNC Surge Barrier by using a thermal camera situated on a drone. Should the project prove successful, the FPA can invest in a thermal camera to equip one of its drones and supplement Mississippi River Levee inspections when river levels are high.



**IHNC Surge Barrier**



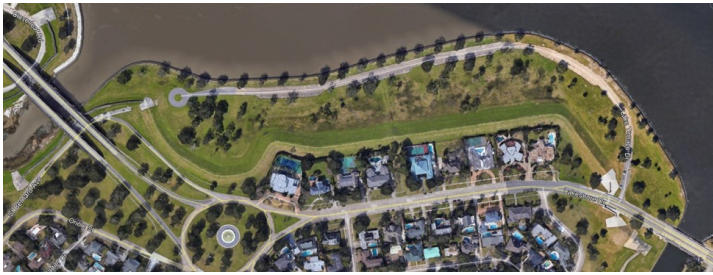
**FPA Licensed Drone Pilots (clockwise) Roger Colwell, Darrin Austin, Darren Nichols and Kevin Bates**



At this time the FPA has four trained Federal Aviation Administration (FAA) licensed Unmanned Aircraft Systems (UAS) or drone pilots: Roger Colwell, G.I.S. Supervisor, Darrin Austin, Engineer 6, Darren Nichols, Facilities Maintenance Manager, and Kevin Bates, Engineering Technician 3. License holders must pass the FAA's aeronautical knowledge test demonstrating an understanding of the regulations, operating requirements and procedures for safely flying drones.

The development of new drone technologies and improvement and customization of drones will open the door to a wide array of new functions in the future and new opportunities for the FPA to increase and broaden its methodologies for monitoring and maintaining the massive flood defense system that protects the lives, properties and livelihoods of the citizens of three coastal parishes.

## *Seawall Stabilization and Erosion Control Project - Phase 4*



**Current View of Reach 3A (area of Phase 4)**

**Wave overtopping of seawall**



The contract for the Tree Trimming and Root Pruning Project was awarded in September, 2019, to Twin Shores Landscape and Construction Services, Inc. at a cost of \$177,925. The work is expected to be completed in January of 2020.

The second part of Phase 4 is the construction of the Seawall Erosion Control Project, which is estimated to cost \$10.4 million and take just over a year to complete. Vinyl sheets will be driven on the landside of the seawall to prevent seepage and reduce erosion, and seawall joints will be sealed to prevent erosion of material from beneath the seawall. Concrete slabs or plazas will be constructed behind the seawall to resolve the continuous erosion problem.

The project will also help protect trees near the shoreline from storm surges and saltwater intrusion, and includes new trash receptacles, park benches, picnic pavilions, and new improved lighting. The project adds considerable drainage to aid in preventing standing water. Access to the site will be improved with a new staircase which will allow pedestrians to access the bridge over Bayou St. John from the site to the park area on the other side of the Bayou. Safe access will be achieved on the east side of the project by adding a dedicated turn lane from Lakeshore Drive. The current parking area will be expanded from the existing eight spaces to approximately 49 spaces, including two handicap parking spaces. Handicap ramps, along with new improved signage and striping, will be added.

The Phase 4 project was advertised for bid and bids were received in November, 2019. The FPA Board is expected to award the contract for the construction of the project at its January 16, 2020 Board Meeting and construction is anticipated to begin late February or early March.

Orleans Levee District maintenance crews once spent half their time in winter cleaning up Lakeshore Drive after storms. This has been significantly reduced by the Seawall Stabilization and Erosion Control Project.

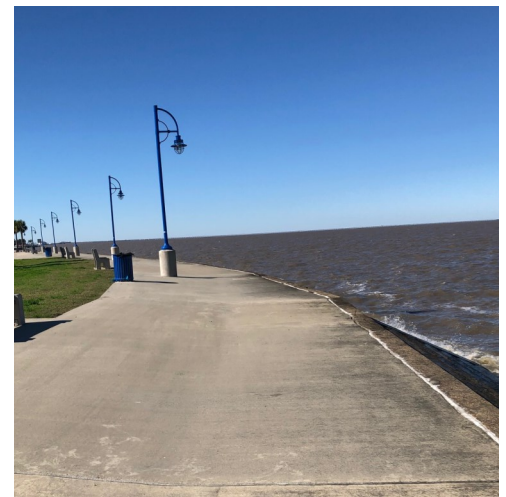
The Flood Protection Authority (FPA) is currently undertaking Phase 4 of the Lakeshore Drive Seawall Stabilization and Erosion Control Project—the final phase of a multi-phased project stretching from West End to the Seabrook Bridge.

Phase 4 is located in the Lake Terrance Drive area along Lake Pontchartrain between Bayou St. John and the London Avenue Canal (Reach 3A). The area is just under one mile of lake frontage and contains several dead or dying trees, broken park benches, heavily eroded areas behind and under the seawall, experiences poor drainage leading to standing water, damaged paving, inadequate access, and insufficient lighting.

Phase 4 will be carried out in two parts. The first part of Phase 4 is an undertaking by the FPA to protect the existing trees from future construction and improve the health and viability of the trees.



**Construction of the seawall in 1930**



**Completed area similar to Phase 4**



## *Lake Pontchartrain & Vicinity General Re-Evaluation Report*

The draft integrated General Re-Evaluation Report and Environmental Impact Statement (DGRR-EIS) for Lake Pontchartrain and Vicinity, LA, prepared by the U.S. Army Corps of Engineers (USACE), dated December 1, 2019, is complete and available for review on the USACE's website at <https://www.mvn.usace.army.mil/About/Projects/BBA-2018/studies/LPV-GRR/>. The Louisiana Coastal Protection and Restoration Authority Board (CPRAB) is the Non-Federal Sponsor for the study.

Congressional authority for the Hurricane and Storm Damage Risk Reduction System (HSDRRS), constructed at a cost of \$14+ billion for both the Lake Pontchartrain & Vicinity (LPV) and West Bank & Vicinity (approximately \$7 billion for LPV), did not include the construction of future levee lifts to sustain the 1% level of hurricane storm damage risk reduction (100-year level of hurricane and storm damage risk reduction) required for accreditation by FEMA and participation in the National Flood Insurance Program. The purpose of the study is to determine whether the work necessary to sustain the 1% level is technically feasible, environmentally acceptable, and economically justified. The study also considers other levels of risk reduction, as well as a range of alternatives that include structural and nonstructural measures to offset consolidation, settlement and subsidence of soils, sea level rise and other issues.

The study utilized a 50-year period of analysis and estimated future conditions at the end of that period if no action is taken to address the identified problems. Six alternatives were formulated, evaluated and compared primarily, but not exclusively, based on cost, economic damage reduction, life safety risk reduction, and environmental and cultural resources impacts. The draft Report identifies Alternative 2 as the Tentatively Selected Plan and as the alternative that reasonably maximizes net economic benefits while remaining consistent with the Federal objective of protecting the environment. Alternative 2 includes system-wide levee lifts and raising floodwalls to address the projected 1% annual exceedance probability event. Alternative 2 has a total project first cost of approximately \$2.6 billion and a benefit-to-cost ratio of 2.5. The Federal cost share for the project (the finally approved alternative) is 65% and the Non-Federal cost share is 35%. The CPRAB will enter into cooperative endeavor agreements or other sub-agreements with the appropriate local entities (Southeast Louisiana Flood Protection Authority-East for Orleans, Jefferson and St. Bernard Parishes and the Pontchartrain Levee District for St. Charles Parish) for performance of the CPRAB's obligations under the Project Partnership Agreement, which will be executed between the USACE and CPRAB.

Preparation of the Lake Pontchartrain and Vicinity General Re-evaluation Report (GRR) is authorized under Section 3017 of the Water Resources Reform and Development Act (WRRDA) of 2014 and includes St. Charles, Jefferson, Orleans and St. Bernard Parishes. The study phase is fully funded in accordance with Public Law 115-123 (Supplemental Appropriation). The final GRR is scheduled for completion in 2021.

Implementation of the alternative selected in the final approved GRR would depend on Congressional authorization, appropriation of sufficient Federal design and construction funding, and matching sponsor contributions in the form of cash, land acquisition credit, or work-in-kind credit.

The USACE will hold a public meeting on Wednesday, January 22, 2020, at 6 P.M. at the Lake Vista Community Center, 6500 Spanish Fort Boulevard, New Orleans, LA 70124, to present the draft DGRR-EIS and allow the public to respond and ask questions. The public also has the opportunity to review and comment on the draft report during the 8-week public comment period which ends on February 7, 2020.

**Flood Protection Authority Monthly Board Meetings can be viewed via livestream by visiting the FPA website [www.floodauthority.org/](http://www.floodauthority.org/) and clicking on the Facebook icon located at the top right corner of the page or going to: [www.facebook.com/FloodProtectionAuthority/](https://www.facebook.com/FloodProtectionAuthority/).**

**The Flood Protection Authority urges everyone to become informed about their flood defense system and encourages organizations and business and community groups to schedule a tour of the IHNC-Lake Borgne Surge Barrier and Permanent Canal Closure and Pumps (PCCP) Stations.**

**To schedule a tour of the IHNC Surge Barrier and/or PCCP, visit our website at [floodauthority.org](http://floodauthority.org) and click on "Schedule Facility Tours" at the bottom of our home page. Fill out the Tour Information Sheet and click on "submit" at the bottom of the sheet.**

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